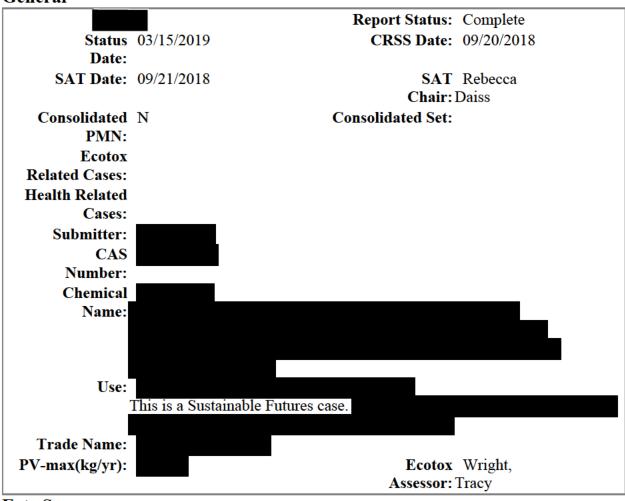
## **Ecotox Report for Case # P-18-0307**

#### General



## **Fate Summary**

#### **Statement**

```
Fate P-18-0307

Summary FATE:

Statement: MW = with  < 500 and  < 1000

with Pour Point = °C (M)

S = Negl.

VP < 1.0E-6 torr at 25 °C (E)

BP > 400
 °C (E)

H < 1.00E-8 (E)

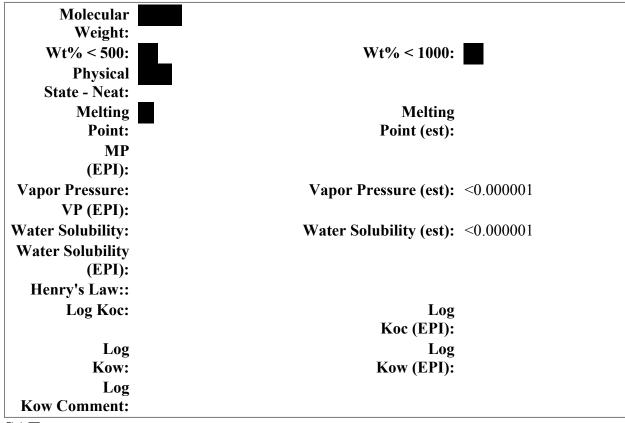
POTW removal (%) = 90 via sorption;

Time for complete ultimate aerobic biodeg > mo
```

Sorption to soils/sediments =
v.strong
PBT Potential: P3B1
FATE: Migration to ground water =
negl

## Physical Chemical

### **Information**



### **SAT**

### **Concern Level**

```
Ecotox 1
Rating (1):
    Ecotox
Rating Comment
    (1):
    Ecotox Rating
    (2):
    Ecotox
Rating Comment
    (2):
    Ecotox Route of No releases to
    Exposure: water
```

## **Ecotox Comments**

Exposure	N
<b>Based Review</b>	
(Eco):	
Ecotox	
<b>Comments:</b>	
Exposure Based	
Testing:	

## **PBT Ratings**

Persistence	Bioaccumulation	Toxicity	Comments	
3	1			

## **Eco-Toxicity Comment:**

# **Fate Ratings**

Removal9 in WWT/POTW (Overall):	0					
Condition	Rating	Rating Description Co				Comment
	Values	1	2	3	4	
Fish BCF:						
Log Fish BCF:						
WWT/POTW	3	Low	Moderate	Strong	V. Strong	
Sorption:						
WWT/POTW	4	Extensive	Moderate	Low	Negligible	
Stripping:						
Biodegradation	4	Unknown	High	Moderate	Negligible	
Removal:		T T 1	0 1 4	D 4: 1		
Biodegradation  Destruction:		Unknown	Complete	Partial		
Aerobic Biodeg	4	<=	Weeks	Months	> Months	
Ult:	7	Days	WCCKS	WIOIIIIIS	> Wionins	
Aerobic Biodeg		<=	Weeks	Months	> Months	
Prim:		Days	,, , , , , , , , , , , , , , , , , , , ,			
Anaerobic	4	<=	Weeks	Months	> Months	
<b>Biodeg Ult:</b>		Days				
Anaerobic		<=	Weeks	Months	> Months	
<b>Biodeg Prim:</b>		Days				
			Hours	Days	>= Months	

Removal 9 in WWT/POTW (Overall):	0					
Condition	Rating	Rating Description Comment				
	Values	1	2	3	4	
Hydrolysis (t1/2		<=				
at pH		Minutes				
7,25C) A:				_		
Hydrolysis (t1/2		<=	Hours	Days	>= Months	
at pH		Minutes				
7,25C) B:	1	<b>V</b>	Ctuono	Moderate	T	
Sorption to Soils/Sediments:	1	V. Strong	Strong	Moderate	Low	
Migration to	1	Negligible	Slow	Moderate	Rapid	
Ground Water:	1	regugiote	SIOW	Wioderate	Rapid	
Photolysis A,		Negligible	Slow	Moderate	Rapid	
Direct:		riegngiole	51011	Moderate	rapra	
Photolysis B,		Negligible	Slow	Moderate	Rapid	
Indirect:		00			1	
Atmospheric Ox		Negligible	Slow	Moderate	Rapid	
A, OH:						
Atmospheric Ox		Negligible	Slow	Moderate	Rapid	
B, O3:						
Bio Comments: A	_					
	ate study si	ımmary is av	ailable.			
Fate Comments:						

# **Ecotoxicity Values**

Test organism	Test Type	Test Endpoint	Predicted	<b>Experimental Comments</b>		
Fish	96-h	LC50	*	* = no effects at		
				saturation.		
Daphnid	48 <b>-</b> h	LC50	*	"		
Green Algae	96-h	EC50	*	"		
Fish	-	Chronic Value	*	"		
Daphnid	-	Chronic Value	*	"		
Green Algae	-	Chronic Value	*	"		
Ecotox Value Predictions are based on SARs for polycationic  Comments: polymers; MW with % <500 and % <1000; %A-N = %; with a MP = C (M); S = negligible (P); effective concentrations based on						

Test	Test Type	<b>Test Endpoint</b>	Predicted	<b>Experimental Comments</b>
organism				

100% active ingredients and mean measured concentrations; hardness <150 mg/L as CaCO3; and TOC <2.0 mg/L.

### **Ecotox Factors**

Factors	Most Sensitive Endpoint	Assessment Factor	СоС	Comment
Acute Aquatic (ppb): Chronic Aquatic(ppb):				Ecotoxicity values indicate that effects are not expected up to the limit of solubility of the chemical substance. As a result, CoCs were not calculated for this chemical.  Ecotoxicity values indicate that effects are not expected up to the limit of solubility of the chemical substance. As a result, CoCs were not calculated for this chemical.
Factors	Va	lues	Comments	
SAR Class: TSCA NCC	Polycationic Polymers-ca insoluble- A-N  Polycationic Polymers	•		

#### Recommended

**Testing:** 

**Ecotox Factors** Environmental

Comments: Hazard: Environmental hazard is relevant to whether a new chemical substance is likely to present unreasonable risk because the significance of the risk is dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA estimated environmental hazard of this new chemical based on the insolubility of the substance and SARs for polycationic polymers. Substance falls within the TSCA New Chemicals Category Polycationic

polymers. Acute toxicity values estimated for fish, aquatic invertebrates, and algae are all no effects at saturation (up to the water solubility limit). Chronic toxicity values estimated for fish, aquatic invertebrates, and algae are all no effects at saturation. These toxicity values indicate that the new chemical substance is expected to have low environmental hazard. Because hazards are not expected up to the water solubility limit, acute and chronic concentrations of concern are not identified. EPA reviewed the Sustainable Futures summary for environmental hazard provided

by the submitter, which had moderate toxicity. The values are based on predictions without consideration of the insolubility of the test substance and with application of mitigation factors. Based on uncertainties regarding levels of dissolved organic carbon in freshwater systems, EPA predictions without mitigation were used. If a polymer under the same CAS RN is produced differently [i.e, changes in the proportion of repeating units, the average molecular weight, percentage of low molecular weight (LMW) components, and/or proportion of surface acting monomers], hazard concerns may result based on changes in water solubility. For the potential future chemical substance, concerns may result from the

Environmental Risk: Risks to

the environment were evaluated by comparing estimated surface water concentrations with the acute and chronic concentrations of concern. Risks to the environment from acute and chronic exposure are not expected at any concentration of the new chemical substance soluble in the water (i.e., no effects at saturation).

### **Comments/Telephone Log**

Artifact	Update/Upload	
	Time	